## We claim:

1. A coronary probe for implantation in a vein of the coronary network for the stimulation of a left cavity of the heart, comprising:

a flexible hollow sheath having an internal conductor and a distal end;
an intermediate element, positioned at the distal end of the sheath, having a
cylindrical body bearing a retention structure and a distal end;

a probe-head, positioned at the distal end of the intermediate element, having a protuberance and at least one stimulation electrode that is electrically conducting and connected to said internal conductor, said stimulation electrode being positioned on said probe-head to come in contact with said vein;

wherein said retention structure further comprises at least one relief formed on the cylindrical body, said relief having an overall circular contour including a second diameter, said second diameter being greater than said first diameter.

- 2. The probe of claim 1, wherein said overall circular contour further comprises an eccentric contour relative to the first axis of the cylindrical body.
- 3. The probe of claim 2, wherein the overall circular contour comprises a second axis, the second axis being offset from said first axis by a distance x, x being selected from between 15 and 25 % of the first diameter of the cylindrical body.

- 4. The probe of claim 1, wherein the second diameter of the overall circular contour is comprised of between 1.5 and 2 times the first diameter of the cylindrical body.
- 5. The probe of claim 1, wherein said at least one relief further comprises a plurality of annular reliefs.
- 6. The probe of claim 1, wherein said at least one relief is eccentric relative to said cylindrical body.
- 7. The probe of claim 1, wherein said at least one relief further comprises a helicoid relief having a thread extending around the cylindrical body.
- 8. The probe of claim 7, wherein the thread extends in a nonjointed way around the cylindrical body.
- 9. The probe of claim 7, wherein the thread extends around the cylindrical body over a number turns selected from between two to three turns.
- 10. The probe of claim 7, wherein the helicoid relief further comprises a first end and a second end and a nominal radius of the thread, said nominal radius being a variable radius that increases and then decreases between said first and second ends.

- 11. The probe of claim 7, wherein the helicoid relief further comprises thread having a constant distance between the thread turns.
- 12. The probe of claim 6, wherein the thread further comprises a thread having a round profile.